

In the Claims:

1. (Original) A system for component-based processing, said system comprising: a component specification element; a control flow specification element; a data flow specification element; a resource specification element; and a quality of service specification derivation element having for output an application model in combination with a quality of service specification derived by implication from relations between components, control flows, data flows and resources; wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment.

2. (Original) A computer system as claimed in claim 1, further comprising a runtime engine for deploying said runtime contract.

3. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a messaging requirement contract.

4. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a transactionality requirement contract.

5. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a security requirement contract.

6. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a recoverability requirement contract.

7. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a completion requirement contract.

8. (Original) A computer system as claimed in claim 7, wherein said runtime contract comprises a completion requirement contract specifying transactional behavior.

9. (Original) A computer system as claimed in claim 7, wherein said runtime contract comprises a completion requirement contract specifying compensation behavior.

10. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises at least one of a reliability, availability and serviceability requirement contract.

11. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a quality of delivery requirement contract.

12. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises at least one of a priority requirement and a response goal requirement contract.

13. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a performance requirement contract.

14. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a repository.

15. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a tagged markup language.

16. A computer system as claimed in claim 15, wherein said tagged markup language is XML.

17. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a modeling language.

18. (Original) A method for component-based processing, said method comprising the steps of: specifying a component; specifying a control flow; specifying a data flow; specifying a

resource; and deriving a quality of service specification by implication from relations between components, control flows, data flows and resources; wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment.

19. (Original) A method as claimed in claim 18, further comprising the step of deploying said runtime contract by a runtime engine.

20. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a transactionality requirement contract.

21. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a security requirement contract.

22. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a recoverability requirement contract.

23. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a completion requirement contract.

24. (Original) A method as claimed in claim 23, wherein said runtime contract comprises a completion requirement contract specifying transactional behavior.

25. (Original) A method as claimed in claim 23, wherein said runtime contract comprises a completion requirement contract specifying compensation behavior.

26. (Original) A method as claimed in claim 18, wherein said runtime contract comprises at least one of a reliability, availability and serviceability requirement contract.

27. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a quality of delivery requirement contract.

28. (Original) A method as claimed in claim 18, wherein said runtime contract comprises at least one of a priority requirement and a response goal requirement contract.

29. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a performance requirement contract.

30. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a repository.

31. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a tagged markup language.

32. (Original) A method as claimed in claim 31, wherein said tagged markup language is XML.

33. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a modeling language.

34. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 18.

35. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 19.

36. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 20.

37. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 21.

38. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 22.

39. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 23.

40. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 24.

41. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 25.

42. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 26.

43. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 27.

44. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 28.

45. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 29.

46. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 30.

47. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 31.

48. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 32.

49. (Original) A computer program comprising computer program code to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 33.